

***Abstract***

A stream of products is packaged and biologically treated by the system. The system has an index conveyor with a filling station and a packaging station. Discrete packages are filled with the stream of products, sealed and moved on an index conveyor. The system moves the discrete  
5 packages an irradiation chamber at a steady rate on a continuous speed conveyor. A controller matches the cyclical rate of the index conveyor with the steady rate of the continuous speed conveyor and uses a buffer to transition from the cyclical rate to the steady rate.